AMENDMENTS TO THE CLAIMS

Claims 1-12 (canceled).

13. (Currently Amended) A wireless LAN system comprising:

a plurality of base stations;

a ~~t least one~~ LAN terminal configured to be wirelessly connected to the base stations;

an ~~t least one~~ IP terminal configured to be connected to an IP network; and

a diversity device connected to the IP network and configured to relay packet transmissions between the LAN terminal and the IP terminal via the IP network, [[;]] wherein

the LAN terminal includes

a first uplink packet processor configured to sequentially establish associations with a predetermined number of the base stations, and to transmit a plurality of uplink packets, which are identical to each other, to the diversity device in parallel [[ly]] via the base stations with which the associations have [[has]] been established, such that each base station relays one of the uplink packets,

the diversity device includes

a second uplink packet processor configured to receive the uplink packets, select one of received uplink packets, and transmit selected uplink packet to the IP terminal; and

a first downlink packet processor configured to receive a downlink packet from the IP terminal, create a plurality of downlink packets, which are identical to each other, from received downlink packet, and transmit created downlink packets to the LAN terminal in parallel [[ly]] via the base stations with which the associations have [[has]] been established, and

the LAN terminal further includes

a second downlink packet processor configured to receive the downlink packets from the diversity device via the base stations, select and output one of received downlink packets.

14. (Previously Presented) The wireless LAN system according to claim 13, wherein

the first uplink packet processor attaches an identical sequence number to each of the uplink packets to be transmitted;

the second uplink packet processor selects an uplink packet from the received uplink packets with the identical sequence number, deletes the identical sequence number from selected uplink packet, and transmits the selected uplink packet to the IP terminal;

the first downlink packet processor attaches an identical sequence number to each of the downlink packets to be transmitted; and

the second downlink packet processor selects a downlink packet from the received downlink packets with the identical sequence number, deletes the identical sequence number from selected downlink packet, and outputs the selected downlink packet.

15. (Previously Presented) The wireless LAN system according to claim 13, wherein

the first uplink packet processor sets up an IP tunnel, packetizes the uplink packets to be transmitted as IP tunnel packets, and transmits the IP tunnel packets;

the second uplink packet processor deletes the IP tunnel of received IP tunnel packets, and then executes the selection;

the first downlink packet processor sets up an IP tunnel, packetizes the downlink packets to be transmitted as IP tunnel packets, and transmits the IP tunnel packets; and

the second downlink packet processor deletes the IP tunnel of the received IP tunnel packets, and then executes the selection.

16. (Previously Presented) The wireless LAN system according to claim 14, wherein

the second uplink packet processor selects an uplink packet that is first received correctly, and disposes of all the uplink packets having the identical sequence number received thereafter; and

the second downlink packet processor selects a downlink packet that is first received correctly, and disposes of all the downlink packets having the identical sequence number received thereafter.

17. (Previously Presented) The wireless LAN system according to claim 14, wherein

the second uplink packet processor waits for a predetermined period of time to receive a plurality of the uplink packets having the identical sequence number, and selects one uplink packet out of the uplink packets having the identical sequence number that is received within the predetermined period of time; and

the second downlink packet processor waits for a predetermined period of time to receive a plurality of the downlink packets having the identical sequence number, and selects one downlink packet out of the downlink packets having identical sequence number that is received within the predetermined period of time.

18. (Previously Presented) The wireless LAN system according to claim 14, wherein

the base station transmits to the diversity device, at least one of a radio status and an error check result that are valid at the time of receiving the uplink packet from the first uplink packet processor;

the second uplink packet processor selects one of the received uplink packets having the identical sequence number, and having at least one of good radio status and good error check result; and

the second downlink packet processor selects one of the received downlink packets having the identical sequence number based on at least one of the radio status and the error check result at the time of receiving the downlink packet.

19. (Previously Presented) The wireless LAN system according to claim 15, wherein the diversity device is a home agent.

20. (Previously Presented) The wireless LAN system according to claim 15, wherein the diversity device is a layer 2 switch.

21. (Previously Presented) The wireless LAN system according to claim 20, wherein in the layer 2 switch, if identical MAC addresses are detected at a plurality of ports, the second uplink packet processor executes the selection and the transmission with respect to the uplink packets received at the ports, and the first downlink packet processor executes the transmission process with respect to the downlink packets received at the ports.

22. (Currently Amended) The wireless LAN system according to claim 21, wherein after the association has been established, ~~any one of~~ at least one of the LAN terminal and the base stations sends in the uplink direction to the layer 2 switch, a dummy packet for learning the MAC address of the LAN terminal.

23. (Currently Amended) A diversity device applied to a wireless LAN system including a plurality of base stations, ~~at least one~~ a LAN terminal configured to be wirelessly connected to the base stations, ~~at least one~~ an IP terminal configured to be connected to an IP network, and a diversity device connected to the IP network and configured to relay packet transmission between the LAN terminal and the IP terminal via the IP network, wherein the LAN terminal includes a first uplink packet processor configured to sequentially establish associations with a predetermined number of the base stations, and to transmit a plurality of uplink packets, which are identical to each other, to the diversity device in parallel [[ly]] via the base stations with which the associations have [[has]] been established, and a first downlink packet processor configured to receive a plurality of downlink packets, which are identical to each other, from the diversity device via the base stations, select and output one of received downlink packets, the diversity device comprising:

a second uplink packet processor configured to receive the uplink packets via the base stations, select one of received uplink packets, and transmit selected uplink packet to the IP terminal; and

a second downlink packet processor configured to receive a downlink packet from the IP terminal, create a plurality of downlink packets, which are identical to each other, from received downlink packet, and transmit created downlink packets to the LAN terminal in parallel [[ly]]

via the base stations with which the associations have [[has]] been established.

24. (Currently Amended) A diversity device applied to a wireless LAN system including a plurality of base stations, ~~at least one~~ a LAN terminal configured to be wirelessly connected to the base stations, ~~at least one~~ a IP terminal configured to be connected to an IP network, and a diversity device connected to the IP network and configured to relay packet transmission between the LAN terminal and the IP terminal via the IP network, wherein the LAN terminal includes a first downlink packet processor configured to receive a downlink packet from the IP terminal, create a plurality of downlink packets, which are identical to each other, from received downlink packet, and transmit created downlink packets to the LAN terminal in parallel [[ly]] via a predetermined number of the base stations with which ~~the~~ associations have [[has]] been established, and a first uplink packet processor configured to receive a plurality of uplink packets, which are identical to each other, from the LAN terminal via the wireless LAN base stations, select one of received uplink packets, and transmit selected uplink packet to the IP terminal, the diversity device comprising:

a second uplink packet processor configured to sequentially establish the associations with [[a]] the predetermined number of the base stations, and to transmit a plurality of uplink packets, which are identical to each other, to the diversity device in parallel [[ly]] via the base stations with which the associations have [[has]] been established; and

a second downlink packet processor configured to receive a plurality of the downlink packets from the diversity device via the base stations, select and output one of received downlink packets.